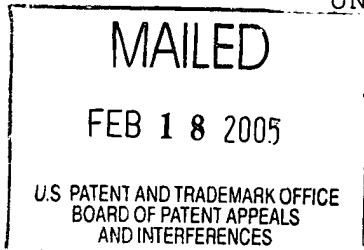


The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE



BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DOMINIQUE COMMEREUC, ALAIN FORESTIERE,
FRANCOIS HUGUES and HELENE OLIVIER

Appeal No. 2005-0533
Application No. 09/580,179

ON BRIEF

Before KIMLIN, TIMM and KRATZ, Administrative Patent Judges.

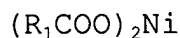
KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3-11 and 17-21. Claims 12-16 have been withdrawn from consideration by the examiner. Claim 1 is illustrative:

1. A catalytic composition, comprising a product resulting from bringing the following three constituents into contact in any order:

a) a [sic, at] least one divalent nickel compound of the formula



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where R_1 is an alkyl, cycloalkyl, alkenyl, aryl, aralkyl or alkaryl radical containing up to 20 carbon atoms;

b) at least one hydrocarbylaluminum dihalide with formula $AlRX_2$, where R is a hydrocarbyl radical containing 1 to 12 carbon atoms and X is a chlorine or bromine atom; and

c) at least one organic Bronsted acid;

the mixture obtained being pre-conditioned in a solvent, in an inert atmosphere at a temperature of 0 to 80°C, for 1 minute to 5 hours, prior to use as a catalyst.

The examiner relies upon the following references as evidence of obviousness:

| | | |
|-----------------------------|-----------|---------------|
| Chauvin et al. (Chauvin II) | 4,283,305 | Aug. 11, 1981 |
| Chauvin et al. (Chauvin I) | 5,059,571 | Oct. 22, 1991 |

Appellants' claimed invention is directed to a catalytic composition comprising a divalent nickel compound of the recited formula, a hydrocarbylaluminum dihalide of the specified formula, and a Bronsted acid. The catalyst is pre-conditioned in a solvent at a temperature and for a time within the claimed ranges prior to its use, for example, in the dimerization or oligomerization of an olefin.

Appealed claims 1, 3-11 and 17-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chauvin II in view of Chauvin I.

Appellants submit at page 2 of the principal brief that separate consideration is requested for claims 1 and 3-11 apart

from claim 21 and also for claims 6 and 19. However, only claim 21 is specifically mentioned in the Argument section of appellants' brief. Accordingly, with the exception of claim 21, all the appealed claims stand or fall together with claim 1.

In re McDaniel, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002). See also 37 CFR § 1.192(c)(7) (2002).

We have thoroughly reviewed each of appellants' arguments for patentability, as well as the specification data relied upon in support thereof. However, we are in complete agreement with the examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection.¹

Appellants have drafted independent claims 1 and 21, drawn to a catalytic composition, in product-by-process format. Accordingly, certain principles of patent jurisprudence apply. In particular, the patentability of a product-by-process claim is determined by the defined product, not its process of

¹ We note that the examiner has improperly responded to appellants' Reply Brief in a fashion that was not provided for in the rules at the time, i.e., the examiner mailed a substantive response akin to a Supplemental Examiner's Answer. Accordingly, we have not considered the examiner's substantive response of March 16, 2004 in reaching our decision.

preparation. Hence, if a claimed product reasonably appears to be substantially the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). In the present case, the relevant issue is whether the claimed catalytic composition, per se, pre-conditioned in a solvent for as little as 1 minute at a temperature as low as 0°C, is substantially different than the catalyst of the prior art.

There is no dispute that Chauvin II discloses a catalyst composition comprising the three claimed components that are used in the same dimerization or oligomerization process as that used by appellants. It is appellants' principal contention that Chauvin II fails to teach or suggest pre-conditioning the catalyst composition in a solvent before it is used in the dimerization reaction. Appellants maintain that "Chauvin II teaches either addition of the separate catalyst components and the feed simultaneously or, if weight is given to order of the recitation of these components in the examples, the patent teaches addition of the catalyst components subsequent to commencement of the feed" (page 3 of principal brief, first full paragraph).

We do not subscribe to appellants' argument. Chauvin II discloses the following at column 3, lines 12 et seq.:

The process may be carried out in a reactor with one or more reaction stages in series, the olefin charge and/or the constituents of the catalyst system being introduced continuously either in the first stage or in the first and in any one of the other stages.

Consequently, it can be seen that the reference expressly teaches that in a multi-stage reaction the constituents of the catalyst system may be added in the first stage followed by the olefin charge in the second stage. Since the reaction takes place in a solvent, we agree with the examiner that it would have been obvious for one of ordinary skill in the art to add the catalyst components in a solvent to the first stage before adding the olefin in the second stage. As such, there would be no meaningful distinction between the catalyst/solvent composition in the first stage and the pre-conditioned catalyst composition of the appealed claims. Moreover, appellants have not refuted the following rationale of the examiner with respect to the obviousness of allowing the catalytic components to react before use in a polymerization process:

One of ordinary skill in the art, wishing a most active catalyst, would have naturally allowed the catalyst components to react together for some time at some temperature in order to allow the active catalyst to form before its use regardless of which third component were added, the epoxy or the acid. It is the

combination of the nickel compound with the other two compounds, necessarily the aluminum compound, which forms the active catalyst. Driving that reaction between the nickel and aluminum compounds to completion by application of even mild heat at 0°C, the lower end of appellants' temperature range, for some period of time, minimally one minute, the lower end of appellants' time range, would have inevitably formed a more active catalyst than adding all three catalyst components to a solvent which also contained the starting material for the oligomerization reaction; the presence of the olefin starting material as well as separate solvents for each of the three catalyst components would have only diluted the reaction medium and permitted the three catalyst components to engage in side reactions with the olefin before reacting with each other to form the active catalyst. Likewise, driving the reaction among all three catalyst components to completion, even under such mild conditions as would be present at the lower end of appellants' time and temperature range, would have also inevitably formed a more reactive catalyst than simply combining the three catalyst components together in a reactor filled with solvents for each component as well as olefin feedstock. (Paragraph bridging pages 6 and 7 of Answer).

Furthermore, bearing in mind that the claimed invention on appeal is the catalyst, per se, and not its method of preparation via pre-conditioning, appellants have not satisfied their burden of establishing with compelling reasoning or objective evidence that catalyst compositions within the scope of the appealed claims, i.e., ones that have been pre-conditioned in a solvent for only 1 minute at a temperate of 0°C, are patentably distinct from catalyst compositions taught by Chauvin II that either have been added separately in a first stage followed by addition of

olefin, or catalyst compositions that result from the simultaneous addition of catalytic components, olefin and solvent. Appellants have simply not demonstrated that the claimed catalyst composition, pre-conditioned in a solvent for 1 minute at 0°C, having the same three components as Chauvin II, is substantially different than the catalyst composition of Chauvin II present in the reaction solvent. The specification evidence cited by appellants, COMPARATIVE EXAMPLE 1 and EXAMPLES 2 and 3 of the present invention, fall far short of such a showing. The single comparative example offered by the specification uses a pre-conditioning time of 30 minutes and a temperature of 30°C, which values are far greater than the 1 minute and 0°C embraced by the appealed claims. Also, to the extent the specification data is relied upon as evidence of unexpected results, suffice it to say that the evidence is considerably broader in scope and, therefore, not commensurate with the degree of protection sought by the appealed claims. In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983); In re Clemens, 622 F.2d 1029, 1035, 206 USPQ 289, 296 (CCPA 1980). Also, for the reasons set forth by the examiner, appellants have not demonstrated that even the limited showing of the comparative data would be considered truly unexpected by one of ordinary skill in the art.

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In re Merck & Co., 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir. 1986); In re Klosak, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972).

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed.


No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

AFFIRMED

Edward C. Kimlin
EDWARD C. KIMLIN)
Administrative Patent Judge)

Peter F. Kratz
PETER F. KRATZ
Administrative Patent Judge

BOARD OF PATENT
APPEALS AND
INTERFERENCES


CATHERINE TIMM
Administrative Patent Judge

ECK:clm

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